**Concanavalin A**

**NFAT activator**

Catalog # inh-cona

For research use only

Version # 16I15-MM

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**PRODUCT INFORMATION**

**Content:**
- 100 mg Concanavalin A (ConA)

**Storage and stability:**
- Concanavalin A is shipped at room temperature. Store at -20°C.
- Upon resuspension, prepare aliquots and store at -20°C. Resuspended product is stable for 12 months when properly stored. Avoid repeated freeze-thaw cycles.

**Quality control:**
- The biological activity of Concanavalin A has been confirmed by assessing NFAT activation in Jurkat-Lucia™ NFAT cells.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

**DESCRIPTION**

Concanavalin A (Con A), a mannose/glucose-binding lectin isolated from Jack beans (*Canavalia ensiformis*), is a well-known T cell mitogen that can activate the immune system, recruit lymphocytes and elicit cytokine production. In addition to its mitogenic activity, ConA can induce programmed cell death via mitochondria-mediated apoptosis and autophagy. Interestingly, ConA has been reported to activate NFAT (nuclear factor of activated T cells), a family of transcription factors that are important in the development and function of the immune system, including T cell receptor (TCR) engagement. Specifically, binding of ConA triggers cross-linking of the TCR complex leading to T cell activation.


**CHEMICAL PROPERTIES**

**CAS Number:** 11028-71-0

**Molecular weight:** 104 kDa

**Solubility:** 10 mg/ml in water or phosphate buffered saline (PBS)

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**METHODS**

**Preparation of stock solution (2.5 mg/ml)**

- Weigh 5 mg of concanavalin A.
- Add 2 ml of sterile PBS (pH 7.5; not provided) to 5 mg of concanavalin A. Vortex gently until completely dissolved.

**Note:** The solution may appear hazy.

**Reporter assay using Jurkat-Lucia™ NFAT cells:**

The following protocol describes the monitoring of NFAT activation using Jurkat-Lucia™ NFAT cells, a human T lymphocyte-based Jurkat cell line that has been stably transfected with an NFAT-inducible secreted Lucia luciferase reporter gene.

1. Centrifuge cells at 1000-1500 RPM (RCF 200 - 300 g) for 5 minutes.
2. Remove supernatant and resuspend Jurkat-Lucia™ NFAT cells at 2 x 10⁶ cells/ml in fresh, pre-warmed growth medium.
3. Add 20 µl of Concanavalin A (1-100 μg/ml) per well.
4. Add 180 µl of cell suspension (~400,000 cells) per well of a flat-bottom 96-well plate.
5. Incubate the plate at 37°C in a CO₂ incubator for 18-24 h.
6. Prepare the QUANTI-Luc™ assay solution following the instructions on the pouch.
7. Set the luminometer with the following parameters: 50 µl of injection, end-point measurement with a 4 second start time and 0.1 second reading time.
8. Pipet samples (10 µl per well) into a 96-well white (opaque) or black plate, or a luminometer tube. Prime the injector with the assay solution and proceed with the measurement.

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<table>
<thead>
<tr>
<th>Product Description</th>
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</tr>
</thead>
<tbody>
<tr>
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<td>inh-ion</td>
</tr>
<tr>
<td>PMA (Phorbol myristate acetate) NF-κB activator</td>
<td>tlrl-pma</td>
</tr>
<tr>
<td>Jurkat-Lucia™ NFAT Cells Reporter T lymphocytes</td>
<td>jktl-nfat</td>
</tr>
</tbody>
</table>